SEE 3-D® i
Three-Dimensional Surface Evaluation Equipment

The SEE 3-D® system was developed to examine the surface finish in difficult to measure small bores. Small diameter parts with critical surface finish features can prove very difficult to measure with standard equipment. By leveraging technology used to create precise surface finishes on small bores, C-K Engineering has created a surface measurement system that can reach where no profilometer can! A two-part silicon rubber compound, is used to make a three-dimensional negative copy of the bore surface, which then can be analyzed with a non-contact surface analyzer to provide all the vital surface finish data you need. SEE 3-D® i will allow you to accept or reject parts on the basis of surface finish from anywhere along the bore, not just on the ends or from estimations made with visual equipment!

Advantages

SEE 3-D® i

• Easy to use
• Practical system for production floor use by production operator
• Precise measurement of surface finish of small bores
• Accurately reproduces and quantifies surface finish
• No fragile probe tips
• No possibility of probe over travel or probe tip radius effects
• More accurate values are generated by measuring an area
• Minimal set up time
• Samples are indefinitely storable, and available for analysis at any time

Accuracy of Various Surface Measuring Equipment
Features

- Accurately reproduces surface finish
- Wide range of bore diameters and lengths, so any bore can be replicated
- Provides two-dimensional data including \( R_a, R_K, R_{PK}, \) & \( R_{VK} \)
- Quantifies 35 different 3-D parameters including \( S_a, S_K, S_{PK}, \) & \( S_{VK} \)
- Fully integrated system hardware: replicate fixture and surface analyzer & analysis software

Replication Process

1. Original honed surface
2. Replicate material cures
3. Replicate material is removed from surface producing a negative copy of the surface
4. Primary software produces 2-D image of replicate surface, similar to Fax Film
5. Secondary software used to develop further statistical data about the surface.

Sizing Information

For bores 0.370” - 1.250” diameter, lengths of 3.625”, 4.375”, and 4.625” are available
Other sizes and lengths are available by request

For additional information on this and other gage designs, please contact us at:
C-K Engineering, Inc.; 116 Holloway Road; Ballwin, MO 63011
Phone: 636/394-3331; Fax: 636/394-5844; email: ckenginc@aol.com; Website: www.c-kengineering.com